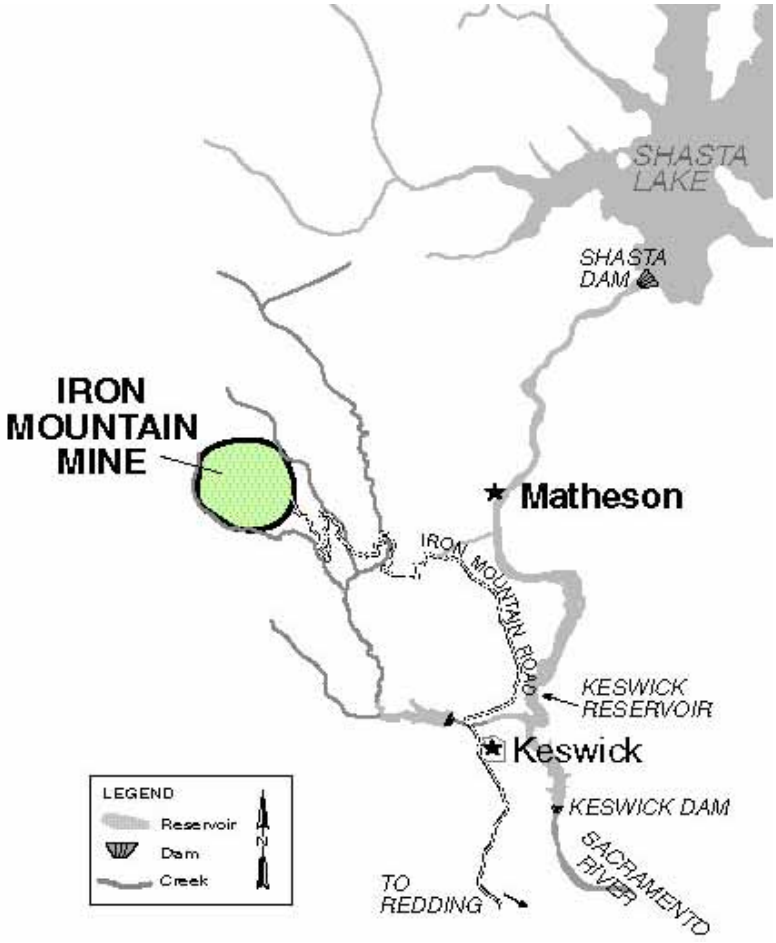
Iron Mountain Mine Superfund Site

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY • REGION IX • MARCH 2005

IMM PROJECT UPDATE:
REMOVAL OF PYRITE MINING WASTES FROM MATHESON SITE

The purpose of this fact sheet is to inform you of the upcoming cleanup activity that the U.S. Environmental Protection Agency (EPA) will be conducting at the Matheson Ore Transfer Station (Matheson) which is part of the Iron Mountain Mine (IMM) Superfund site. Matheson is located adjacent to Keswick Reservoir. EPA's cleanup activity consists of constructing a disposal cell at Iron Mountain, excavating the Matheson soils that have become contaminated with pyrite ore, and hauling these contaminated soils to Iron Mountain for disposal. EPA is performing the cleanup of these historic mine wastes jointly with the U. S. Bureau of Reclamation (Reclamation) to allow for unrestricted recreational use of this area adjacent to Keswick Reservoir and to protect this sensitive environmental area.



Location of the Iron Mountain Mine Superfund Site

Work is scheduled to begin in April 2005, weather permitting, and is estimated to be completed by August 2005. During the cleanup, public access to Keswick Reservoir via the county road will be restricted. On week days, only residents that must use this road to access their homes will be permitted to use the county road. Access to Keswick Reservoir via the county road will be restricted, 24 hours each day, for all others during the cleanup from Monday through Friday from the end of May through mid-August. EPA will open the county road and assure that the public can safely access Keswick Reservoir via this road on Saturday and Sunday each weekend.

Once EPA's cleanup is complete, the public will have unrestricted access to Keswick Reservoir at Matheson via the county road. This important cleanup action to remove contaminated soils will assure the protection of human health and the environment.

Background on Matheson

Matheson is a portion of the IMM Superfund site and is located adjacent to Keswick Reservoir six miles northwest of the City of Redding in Shasta County, California. Matheson was historically used to store and then ship pyrite ore that was mined at IMM. An aerial tramway transported pyrite ore from IMM to Matheson where the ore was stockpiled, and later the ore was loaded into rail cars for shipment. When operations at Matheson ended, the remaining pyrite ore was abandoned in place. The soils at Matheson are presently contaminated by the pyrite that was left behind. The contaminated soils contain unsafe levels of arsenic, lead, copper, cadmium, and zinc and cover an area of approximately three acres.

The health and environmental concerns for the contaminated soils at Matheson are related to the toxic levels of arsenic, lead, copper, cadmium and zinc that are present in the soils. The arsenic and lead levels pose inhalation, ingestion and dermal (via cuts on the skin) hazards to humans and wildlife. During rainy periods, the pyrite contaminated soils and acidic drainage that leaches out of these soils wash into the Sacramento River. The copper, cadmium and zinc levels in these contaminant discharges pose a significant threat to aquatic life.

Currently, the contamination present at Matheson does not allow the public to access Keswick Reservoir in an unrestricted manner. Reclamation has implemented interim measures to prevent public exposures to the contaminants at Matheson. Reclamation placed a felt-type geotextile liner over contaminated soils in the roadway and placed a few inches of gravel on top of this liner to prevent exposures to contaminated road dust. Reclamation also installed a fence and signs to discourage public access to the most contaminated soils at Matheson that present health and environmental risks from direct contact.

EPA's cleanup action will remove the contaminated soils from this important recreational and sensitive environmental area. EPA will safely contain these wastes in a disposal cell to be constructed at IMM in conformance with California mining waste disposal requirements. This cleanup action will address all potential exposures to the contaminated soils at Matheson and assure the protection of people, wildlife, and aquatic life.

What is EPA's cleanup plan?

EPA's cleanup plan consists of: 1) constructing a disposal cell at IMM that fully complies with California requirements for disposal of mining wastes, 2) excavating and transporting the pyrite contaminated soils from Matheson to the disposal cell at IMM, and 3) placing and capping the contaminated soils in the disposal cell. At the completion of the cleanup, the Matheson area will be graded to provide a gently sloping area adjacent to Keswick Reservoir and seeded to re-establish native vegetation. Once the cleanup is completed, the public will have unrestricted use of the county road to access Keswick Reservoir at Matheson.

The disposal cell will be constructed with a multilayer lining system to assure that the mine wastes are safely contained within the disposal cell and to assure that contaminated leachate (that over time may form in the cell) does not escape from the cell and contaminate surrounding groundwater. The disposal cell will include an under-drain system for intercepting and diverting clean groundwater away from the disposal cell, two bottom liners to contain the wastes, a top liner to prevent infiltration of precipitation, and soil cap placed over the pyrite ore to protect the liner and to prevent direct contact with the wastes.

In addition to the construction and filling of the disposal cell, the debris and the household trash that has been dumped at the site will be collected and disposed. Concrete bunkers, retaining walls and vaults to a depth of three feet below ground surface will be demolished to remove all the pyrite ore sediments on and within the structures. The demolished concrete will then be used onsite as fill material.

What is the schedule for construction?

A number of pre-construction activities will take place at Matheson and at IMM starting in April 2005. EPA's contractor will make some improvements to the county road to Matheson to make sure the road will be able to handle the increased traffic from the construction. The contractor will set up a construction management trailer and bring in materials, supplies, and construction equipment. The contractor will place signs, install fencing and prepare for construction by disposing of the household trash and other non-hazardous debris.

Once the pre-construction activities have been completed, construction of the disposal cell will begin. The disposal cell will be located on IMM property. Once necessary equipment and supplies have been mobilized, all activities to construct the disposal cell will take place at IMM.

Construction activities to clean up the mine wastes at Matheson will include the use of heavy construction equipment to excavate the contaminated soils, large trucks to transport the wastes to IMM and heavy equipment to dispose the wastes in the disposal cell. Once the contaminated soils have been removed from Matheson, heavy construction equipment will be used for earth moving and grading, demolition of the concrete structures, installation of culverts, and placing soil covers.

Once the mine wastes have been placed in the disposal cell at IMM, the cell will be properly closed. A membrane liner system will be placed over the wastes and a soil cover will be placed on top of the liner. The performance of the cleanup will be assessed through post-construction monitoring and testing to ensure the disposal cell and environmental systems function properly.

What are the plans for the site after the cleanup plan?

Matheson has been designated by the United States Bureau of Land Management (BLM) as a public access road to the Sacramento River as well as a new river trail that will extend from Keswick Dam to Shasta Dam.

This road will be fully accessible to the public once the cleanup is completed at the end of this summer.

FOR MORE INFORMATION

If you have questions or concerns about the upcoming construction work at the Matheson Ore Transfer Site, please do not hesitate to contact any of the people listed below:

Michelle Prowse
Hazardous Materials Specialist
U.S. Bureau of Reclamation
2800 Cottage Way Room E-1712
Sacramento, CA 95825
(916) 978-5036
(916) 978-5055 fax
mprowse@mp.usbr.gov

Richard Sugarek
Remedial Project Manager (SFD-7-2)
(415) 972-3151
sugarek.richard@epa.gov

Cameron McDonald
Community Involvement Coordinator (SFD-3)
(415) 972-3308
Mcdonald.cameron@epa.gov

U.S. Environmental Protection Agency
75 Hawthorne Street
San Francisco, CA 94105

You may also call our toll-free message line at
(800) 231-3075
and your call will be returned.